Amendments to the Specification are as follows:

Please amend the paragraph on page 22, lines 7-20 as follows:

(Amended) The seed layer 22 is essentially composed of face-centered cubic crystals and whose (111) plane is preferentially oriented in the direction parallel to the interface with the lower antiferromagnetic layer 23, described later. The seed layer 22 is, preferably, formed of Cr, a NiFe alloy, or a Ni-Fe-Y alloy, wherein Y is at least one selected from the group consisting of Cr, Rh, Ta, Hf, Nb, Zr, and Ti. The (111) plane of the seed layer 22 constituted of these materials ~~becomes to have~~has a tendency to preferentially orient in the direction parallel to the interface with the lower antiferromagnetic layer 23 by providing the seed layer 22 on the underlayer 21 formed of, for example, Ta. The seed layer 22 has a thickness of, for example, about 30 Å.

Please amend the paragraph on page 23, lines 3-13 as follows:

(Amended) The lower antiferromagnetic layer 23 and the upper antiferromagnetic layer 29 are, preferably, formed of an antiferromagnetic material containing Mn and element X, wherein X is at least one element selected from the group consisting of Pt, Pd, Ir, Rh, Ru, and Os. Alternatively, the lower and upper antiferromagnetic layers 23 and 29 are formed of an antiferromagnetic material containing Mn, element X, and element X', wherein X' is at least one element selected from the group consisting of Ne, Ar, Kr, Xe, Be, B, C, N, Mg, Al, Si, P, Ti, V, Cr, Fe, Co, Ni, Cu, Zn, Ga, Ge, Zr, Nb, Mo, Ag, Cd, Sn, Hf, Ta, W, Re, Au, Pb, and ~~rear~~rare earth elements.

Please amend the paragraph on page 30, lines 3-19 as follows:

(Amended) When a sense current is applied to the upper pinned magnetic layer 28, the upper nonmagnetic material layer 27, and the free magnetic layer 26, the lower nonmagnetic material layer 25, and the lower pinned magnetic layer 24 and a leak magnetic field is applied in the Y direction from a recording medium that runs in the Z direction, such as a hard disk, the magnetization of the free magnetic layer 26 is changed from the X direction to the Y direction. The electric resistance is changed according to

the relationship between the magnetization directions of the first free magnetic layer 53 and the magnetic layer 52 of the lower pinned magnetic layer 24 and the relationship between the second free magnetic layer 55 and the magnetic layer 60 of the upper pinned magnetic layer 28 (this is the magnetic magnetoresistance effect). A ~~leak~~weak magnetic field from a recording medium is detected based on a change in voltage or current corresponding to the change in electric resistance.

Please amend the paragraph on page 39, lines 13-20 as follows:

(Amended) The majority spin in the magnetic layers in which the magnetization is oriented rightward shown in the figure is up-spin, and the majority spin in the magnetic layers in which the magnetization is oriented leftward is down-spin, as above. The magnetization directions of the first free magnetic layer 53 and the second free magnetic layer 55 are those ~~when~~in which the magnetic detecting element exhibits the lowest resistance.

Please amend the paragraph on page 78, lines 10-28 as follows:

(Amended) By performing magnetic annealing twice, the magnetization directions of the magnetic layer 52 of the lower pinned magnetic layer 24 and the magnetic layer 60 of the upper pinned magnetic layer 28 can be set to be antiparallel even when the magnetic layers 50 and 52 of the lower pinned magnetic layer are formed of a magnetic material having the same composition such that the thickness t6 of the magnetic layer 50 is larger than or equal to the thickness t7 of the magnetic layer 52 ($t6 \geq t7$) and when the magnetic layers 60 and 62 of the upper pinned magnetic layer 28 are formed of a magnetic material having the same composition such that the thickness t9 of the magnetic layer 62 is larger than or equal to the thickness t8 of the magnetic layer 60 ($t9 \geq t8$). Also, when the thickness t6 of the magnetic layer 50 is set to be smaller than or equal to the thickness t7 of the magnetic layer 52 ($t6 \leq t7$), and when the thickness t9 of the magnetic layer 62 is set to be smaller than or equal to the thickness t8 of the magnetic layer 60 ($t9 \leq t8$), the same goes.